

Patent  
Attorney's Docket No. 010830-118

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of )  
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GUERIN-MARCHAND et al ) Group Art Unit: Unassigned  
 )  
Application No.: TBA (Div of 08/098,327) ) Examiner: Unassigned  
 )  
Filed: Even date herewith )  
 )  
For: PEPTIDE SEQUENCES SPECIFIC )  
FOR THE HEPATIC STAGES OF *P.*)  
*FALCIPARUM* BEARING )  
EPITOPES CAPABLE OF )  
STIMULATING THE T )  
LYMPHOCTYES )

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the referenced application, please amend the above-cited application as follows.

**IN THE CLAIMS:**

Kindly delete claims 1-26. Please add the following new claims:

27. A DNA sequence encoding a polypeptide comprising at least one liver stage-specific T cell epitope of *P. falciparum* Liver Stage Antigen (LSA).

28. A DNA according to claim 27, wherein said polypeptide has an amino acid sequence selected from the group consisting of the amino acid sequence of Figure 9 and the amino acid sequence of Figure 10.

29. A DNA encoding a polypeptide consisting of amino acid sequence SEQ ID NO: 19, 20, 21, 22 or 23 or an epitope effective portion thereof.

30. A DNA according to claim 29, wherein said polypeptide is preceded by one or more of the amino acid sequences of SEQ ID NOS 2-18, wherein  $X_1$  is Ser or Arg;  $X_2$  is Glu or Asp;  $X_3$  is Arg or Leu; and  $X_4$  is Glu or Gly.

31. A DNA according to claim 27, wherein said polypeptide has an amino acid sequence consisting of the amino acid sequence of Figure 7.

32. A DNA encoding polypeptide comprising at least one epitope of *P. falciparum* Liver Stage Antigen (LSA), wherein said polypeptide has an amino acid sequence consisting of the first 153 amino acids of the amino acid sequence of SEQ ID NO: 37, or an epitope effective portion thereof.

33. A DNA according to claim 32, wherein said polypeptide is preceded by one or more of the amino acid sequences of SEQ ID NOS 2-18, wherein wherein  $X_1$  is Ser or Arg;  $X_2$  is Glu or Asp;  $X_3$  is Arg or Leu; and  $X_4$  is Glu or Gly.

34. A DNA according to claim 32, wherein said polypeptide is followed by one or more of the amino acid sequences of SEQ ID NOs 2-18, wherein wherein X<sub>1</sub> is Ser or Arg; X<sub>2</sub> is Glu or Asp; X<sub>3</sub> is Arg or Leu; and X<sub>4</sub> is Glu or Gly.

35. A DNA according to claim 27, further comprising DNA encoding at least one B epitope from a liver-stage specific protein produced by *P. falciparum*.

36. A DNA encoding a polypeptide consisting of the last 279 amino acids of the amino acid sequence of SEQ ID NO, 45 or an epitope effective portion thereof.

37. A DNA polypeptide according to any one of claims 29, 32 or 44, wherein said polypeptide is linked to one or several amino acids of one or more peptides other than a *P. falciparum* Liver Stage Antigen.

**REMARKS**

Entry of the foregoing, and early and favorable consideration of the subject application on the merits is respectfully requested.

By the present Amendment, claims 1-26 have been deleted without prejudice or disclaimer. New claims 27-37, directed to DNA encoding the polypeptides of the present invention, have been added. These claims derive support from throughout the specification and claims as originally filed. No new matter has been added.

In the event that there are any questions concerning this Amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of the application may be expedited.

Respectfully submitted,

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